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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/069,479	02/27/2002	Daichi Imamura	L9289.02127	3438
24257	7590	06/09/2006	EXAMINER	
STEVENS DAVIS MILLER & MOSHER, LLP			TRAN, PHUC H	
1615 L STREET, NW			ART UNIT	
SUITE 850			PAPER NUMBER	
WASHINGTON, DC 20036			2616	

DATE MAILED: 06/09/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

Application No.

10/069,479

Applicant(s)

IMAMURA, DAICHI

Examiner

PHUC H. TRAN

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 31 August 1999.  
2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.  
3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-10 is/are pending in the application.  
4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.  
5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.  
6) ☒ Claim(s) 1-10 is/are rejected.  
7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.  
8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.  
10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).  
11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a) ☐ All b) ☐ Some \* c) ☒ None of:  
1. ☐ Certified copies of the priority documents have been received.  
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)  
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)  
3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date 9/10/02 3/21/02-2/27/02  
4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_  
5) ☐ Notice of Informal Patent Application (PTO-152)  
6) ☐ Other: \_\_\_\_\_

## DETAILED ACTION

### *Drawings*

1. The drawings are objected to under 37 CFR 1.83(a) because they fail to show **the output of error correction circuit 105 to the hard decision 107 in Fig. 3** as described in the specification **page 8 line 1-3**. Any structural detail that is essential for a proper understanding of the disclosed invention should be shown in the drawing. MPEP § 608.02(d). Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as “amended.” If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either “Replacement Sheet” or “New Sheet” pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

2. Figure 1 and 2 should be designated by a legend such as --Prior Art-- because only that which is old is illustrated. See MPEP § 608.02(g). Corrected drawings in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application.

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The replacement sheet(s) should be labeled "Replacement Sheet" in the page header (as per 37 CFR 1.84(c)) so as not to obstruct any portion of the drawing figures. If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

***Priority***

3. Acknowledgment is made of applicant's claim for foreign priority based on an application filed in JAPAN on 08/31/1999. It is noted, however, that applicant has not filed a certified copy of the JAPAN 11/245299 application as required by 35 U.S.C. 119(b).

***Specification***

4. The lengthy specification has not been checked to the extent necessary to determine the presence of all possible minor errors. Applicant's cooperation is requested in correcting any errors of which applicant may become aware in the specification.

***Claim Rejections - 35 USC § 112***

5. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter, which the applicant regards as his invention.

6. Claims 1-10 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claims 1, 2, 7, 8, 9, and 10 recite the limitation "the information signal" in lines 6-7 and "said hard-decided signal" in line 13-14. There is insufficient antecedent basis for this limitation in the claim.

### ***Double Patenting***

7. The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. A nonstatutory obviousness-type double patenting rejection is appropriate where the conflicting claims are not identical, but at least one examined application claim is not patentably distinct from the reference claim(s) because the examined application claim is either anticipated by, or would have been obvious over, the reference claim(s). See, e.g., *In re Berg*, 140 F.3d 1428, 46 USPQ2d 1226 (Fed. Cir. 1998); *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) or 1.321(d) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent either is shown to be commonly owned with this application, or claims an invention made as a result of activities undertaken within the scope of a joint research agreement.

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

8. Claims 1-10 are rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 1-8 of U.S. Patent No. 6,801,586. Although the conflicting claims are not identical, they are not patentably distinct from each other because of the following:

Application No. 10/069479	Patent No. 6801586
1. An OFDM communication apparatus comprising:	1. An OFDM communication apparatus comprising: a receiver that receives an

<p><i>estimation value calculating means for calculating a propagation path estimation value using a known signal of an OFDM signal containing said known signal;</i></p> <p><i>propagation path distortion compensating means for compensating propagation path distortion for the information signal obtained from said OFDM signal using said propagation path estimation value; and</i></p> <p><i>hard decision means for deciding transmission signal points using the information signal compensated for propagation path distortion, wherein said estimation value calculating means calculates a propagation path estimation value using said hard-decided signal instead of said known signal.</i></p>	<p>OFDM signal in which a known signal and an information signal following said known signal are superimposed upon a plurality of subcarriers;</p> <p><i>a calculator that calculates a propagation path estimated value using (i) the known signal and the received version of the known signal or (ii) the received information signal and a recoded signal;</i></p> <p><i>a propagation path distortion compensator that compensates the propagation path distortion of the received information signal, using the propagation path estimated value, to produce a distortion compensated signal;</i></p> <p><i>an error corrector that error corrects the distortion compensated signal to produce an error corrected signal; and a recoder that recodes the error corrected signal to produce the recoded signal, wherein: the calculator comprises: a correction value calculator that calculates a correction value for updating the propagation path estimated value using the recoded signal and the received information signal; a weighter that multiplies the correction value and an old propagation path estimated value, calculated earlier, with a weighting factor on a per subcarrier basis; and an adder that adds the weighted old propagation path estimated value and the weighted correction value to produce the updated propagation path estimated value.</i></p>
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For claims 1-10, the claims 1-8 of the Patent discloses all the limitation of the claim invention, although the Patent does not disclose: “*hard decision means for deciding transmission signal points using the information signal compensated for propagation path distortion, wherein said estimation value calculating means calculates a propagation path estimation value using said hard-decided signal instead of said known signal*” and the Applicant’s claims 1-10 merely broaden the scope of the Patent. In the OFMD communication, the hard decision is a technique

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used in certain Forward Error Correction error detection and correction algorithms. Therefore, the hard decision is one of the techniques of recoding in the Patent. Thus, it would have been obvious to a person of ordinary skill in the art at the time of the invention was made to know the steps of error correction, recoder and calculator in the claim of the patent is for the purpose of calculating of propagation path estimated. The omission of an element in the Applicant and its function is an obvious expedient if the remaining elements perform the same function as before. In re Karlson, 136 USPQ 184 (CCPA). Also note Ex Parte Raine, 168 USPQ 375 (bd. App. 1969); omission of a reference element whose function is not needed would be obvious to one skilled in the art.

### *Conclusion*

9. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Kumar (US 2001/0050926 A1) discloses In-band on-channel digital broadcasting method and system.

Sakoda et al. (U.S. Patent No. 6574283 B1) discloses communication method transmission and reception apparatuses and cellular radio communication system.

Shou et al. (U.S. Patent No. 6081549) discloses phase correction method and apparatus for spectrum spread wireless communication receiver.

10. Any inquiry concerning this communication or earlier communications from the examiner should be directed to PHUC H. TRAN whose telephone number is (571) 272-3172. The examiner can normally be reached on M-F (8-4:30).


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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, CHI PHAM can be reached on (571) 272-3179. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Phuc Tran  
Assistant Examiner  
Art Unit 2664

P.t  
6/5/06

  
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SUPERVISORY PATENT EXAMINER  
6/6/06